217/782-2113

CONSTRUCTION PERMIT - NSPS SOURCE

PERMITTEE

ANR Pipeline Company
Attn: Fiji George
9 Greenway Plaza, Suite 1626B
Houston, Texas 77046

Application No.: 01070036 I.D. No.: 111816AAA
Applicant's Designation: Date Received: July 11, 2001
Subject: Turbines
Date Issued: April 26, 2002
Location: 15313 West South Street, Woodstock

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of uprating the two natural gas turbines, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. Each turbine is subject to a New Source Performance Standard (NSPS) for stationary gas turbines, 40 CFR 60, Subparts A and GG. The Illinois EPA is administering these NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

b. i. Emissions of nitrogen oxide (NO_X) from each turbine shall not exceed the allowable limit pursuant to the NSPS, 40 CFR 60.332(a)(2).

ii. Each turbine shall comply with the applicable standard for sulfur dioxide pursuant to the NSPS, 40 CFR 60.333, e.g., the sulfur content of the fuel burned in the turbine shall not exceed 0.8 percent by weight.

c. At all times, the Permittee shall maintain and operate the turbines in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).

2. a. Only natural gas may be fired in the turbines.

b. Natural gas usage in each turbine shall not exceed 150 million scf/month and 1,310 million scf/year.

3a. At all times the Permittee shall, to the extent practicable, maintain and operate the dry low NO_x burner in each turbine in a manner consistent with good air pollution control practice for minimizing emissions.

b. Emissions from each turbine shall not exceed the following limits except during startup and shutdown as addressed in Condition 3(c).

	(Lbs/Hour)
NO_x	12.20
CO	14.86
SO_2	0.45
VOM	3.40
PM	0.92

These limits are based on emission data in the application, including the maximum firing rate of turbine.

c. Unless an alternative factor is established for the pollutant or emissions monitoring is performed for the pollutant, emissions of NOX, CO, and VOM during an event that includes a combined startup and shutdown shall be presumed to be 2.07, 9.90, and 1.43 lbs/each combined startup and shutdown event respectively. These presumption are based on data provided in the permit application describing maximum emissions during startup of a turbine.

d. Annual emissions from both turbines including the startup and shutdown emissions in total shall not exceed the following limits:

	Tons/Year
NO_x	94.44
CO	117.21
SO_2	3.92
VOM	26.67
PM	8.10

4. Compliance with annual limits set by this permit shall be determined on a monthly basis from a running total of 12 months of data.

5a. This permit is issued based on the construction and operation of the uprated turbine not constituting a major modification subject to the federal rules for Prevention of Significant Deterioration of Air Quality, (PSD) 40 CFR 52.21 and 35 Ill. Adm. Code 203. For emissions of NO_x, CO and VOM, this determination relies upon contemporaneous decreases in emissions from existing units such that the net changes in emissions from this project is not significant as shown in Tables I, II, III, and IV when taken with creditable contemporaneous decreases from the removal of 5 reciprocating engines along with associated creditable increases.

b. The Pemittee shall permanently remove the existing five engines from the service, promptly after the two turbines demonstrate reliable operation. The Permittee shall notify the Illinois EPA if the engines are not permanently removed within 180 days of initial startup of turbines. This notification shall include an explanation of the

circumstances of the delaying the removal of the engines from service, schedule by which it is expected that engines will be removed from the service, and a demonstration that the combined operation of the engines and the turbines will not result in a significant increase in emissions.

c. These limits and requirements and associated recordkeeping and reporting requirements become effective upon initial startup of the turbines.

6. The Permittee shall fulfill applicable notification and recordkeeping requirements of the NSPS, 40 CFR 60.7 for the construction and operation of the turbines. Notification shall be made in writing to the Illinois EPA and shall include the following:

a. Written notification of commencement of construction, no later than 30 days after such date (40 CFR 60.7(a)(1);

b. Written notification of anticipated date of initial startup, at least 30 days but not more than 60 days prior to such date (40 CFR 60.7(a)(2); and

c. Written notification of the actual date of initial startup, within 15 days after such date (40 CFR 60.7(a)(3)).

7a. Under this permit, the turbines may be operated for a period of up to 180 days from initial startup to allow for equipment shakedown and emissions testing as required.

b. Upon successful completion of the emission testing required by Condition 8(a) demonstrating compliance with applicable short-term limitations, the Permittee may continue to operate the facility as allowed by Section 39.5(5) of the Environmental Protection Act.

c. This condition supersedes Standard Condition 6.

8a. Within 60 days after achieving the maximum production rate at which the emission units will be operated but not later than 180 days after initial startup, the Permittee shall have emissions testing perform for each turbine for NO_x, CO and VOM at its expense by a testing service approved by the Illinois EPA.

b. The following methods and procedures shall be used for testing of emissions:

i. USEPA Reference Test Methods shall be used for emission testing, including the following methods:

Carbon Monoxide	USEPA Method 10
Nitrogen Oxides	USEPA Method 7
Volatile Organic Material	USEPA 25, 25A if Outlet VOM Cont. < 50 ppm as C Non CH_4

ii. Measurements for NO_x from the turbines shall be conducted in accordance with 40 CFR 60.335, as specified below, unless alternative testing procedures are approved by USEPA pursuant to 40 CFR 60.8(b):

A. The NO_x emissions shall be computed for each run using the equation in 40 CFR 60.335(c)(1).

B. The span values for Method 20 shall be 300 ppm of NO_x and 21 percent O_2, pursuant to 40 CFR 60.335(c)(3).

C. The NO_x emissions shall be determined at four points in the normal operating range of the turbine, including the minimum point in the range and peak load, pursuant to 40 CFR 60.335(c)(2).

D. All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer, pursuant to 40 CFR 60.335(c)(2).

c. At least 30 days prior to the actual date of testing, a written test plan shall be submitted to the Illinois EPA for review. This plan shall describe the specific procedures for testing and shall include as a minimum:

i. The person(s) who will be performing sampling and analysis and their experience with similar tests.

ii. The specific conditions under which testing shall be performed including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source will be tracked and recorded.

iii. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.

iv. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods.

d. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

e. Three copies of the Final Reports for these tests shall be forwarded to the Illinois EPA within 30 days after the test results are compiled and finalized. The Final Report from testing shall contain a minimum:

i. A summary of results;

ii. General information;

iii. Description of test method(s), including a description of sampling points, sampling train, analysis equipment, and test schedule;

iv. Detailed description of test conditions, including:

A. Fuel consumption;

B. Turbine firing rate; and

C. Turbine/steam turbine output rate.

v. Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample calculations, and data on equipment calibration.

9a. The Permittee shall monitor the sulfur and nitrogen content of the fuel being fired in the turbines in accordance with 40 CFR 60.334(b) unless a custom schedule or other alternative provisions for monitoring are approved by the USEPA.

b. The Permittee shall install fuel meter on each turbine to measure and record fuel consumption (scf).

10a. The Permittee shall maintain a file of the following items:

i. Manufacturers specification of rated turbine;

ii. Heat and sulfur content of the fuels being fired in the turbines, with supporting documentation, on a quarterly basis; and

iii. A copy of the Final Report(s) for emission testing conducted pursuant to Condition 8.

b. The Permittee shall maintain the following daily and monthly operating records:

i. The quantity of fuel consumed for the turbine (standard cubic feet).

c. The Permittee shall keep inspection, maintenance and repair logs with dates and the nature of such activities for the turbines.

d. The Permittee shall maintain the following records related to emissions from the turbines:

i. Other data, not addressed above, used or relied upon by the Permittee to determine emissions;

ii. Fuel consumption and number of startups for each engine, compiled on at least a monthly basis;

ii. Monthly emissions of NO_X, CO, SO_2, VOM, and PM from each turbine. Emissions shall be calculated based on fuel consumption and operating data and site-specific emission factors developed from emission test data (NO_x, CO and VOM) and standard emission factors (PM and SO_2);

iv. The annual emissions of NO_x, SO_2, PM, VOM and CO for each month using current months data and previous 11 months data with supporting calculations.

e. The Permittee shall maintain records that identify any day in which emissions or operation exceed an applicable standard or limitation.

11. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

12. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a written report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. This report shall include the type and quantity of emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

13. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

14a. Compliance with the emission limit for NO_x, CO and VOM in Conditions 3 and 4 shall be demonstrated by proper operation of emission units in a manner that is consistent with that during emission testing in accordance by Condition 8 that shows compliance with applicable short-term limits, based on the records required by Condition 10 and other relevant data.

b. Compliance with the emission limits for PM and SO_2 in Condition 3 shall be determined using the recordkeeping requirement of this permit and standard emission factors from USEPA's Compliance of Air Pollutant Emission Factors, and AP-42 as follows:

	Natural Gas Mode Turbines (Lb/mmBtu)
PM	0.0066
SO_2	0.0032

15. This approval to construct does not relieve the Permittee of the responsibility to comply with all local, state, and federal regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable federal, state, and local requirements.

If you have any questions concerning this permit, please call Minesh Patel at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:MVP:jar

cc: Region 1

Company: ANR Pipeline Company
I.D.: 111816AAA
P.N.: 01070036

TABLE I

Potential Emissions for the New Units

Contaminant	Quantity (Tons/Year)
NO_x	94.44
CO	117.21
VOM	26.67

Note: These limits are applicable to the operation of the turbines.

TABLE II

Emission Decreases Associated with Removal of 5 Reciprocating Engines

Contaminant	Historical
NO_x	372.94
CO	20.72
VOM	7.51

Note: These creditable decreases in emissions are based on averaged data from the years 1999 and 2000 and are most representative of typical actual operation of reciprocating engines as stated in the application.

TABLE III

Contemporaneous Changes in Emissions from Other Projects

Contaminant	Change in Emission (Tons/Year)
VOM	3.8

Note: This table accounts for all other increases and decreases in emissions of criteria pollutants which occurred at the above referenced source during the five year contemporaneous period (July 1996 through July 2001) prior to the project.

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TABLE IV

Net Change in Emissions (Tons/Year)

Contaminant	Allowable Project Emissions	Decreases for Reciprocating Engines	Other Past Contemporaneous Changes	Net Contemporaneous Change
NO_x	94.44	- 372.94	+ 0	-278.50
CO	117.21	- 20.72	+ 0	+ 96.49
VOM	26.67	- 7.51	+ 3.80	+ 22.96

Note: This table represents the net change in emissions associated with the new turbines.

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